AMENDMENTS TO THE SPECIFICATION

Please enter the Sequence Listing attached hereto.

Please replace the abstract with the amended abstract attached hereto as a separate sheet pursuant to 37 CFR § 1.72.

In the inserted paragraph of the Preliminary Amendment at page 2 under Description of the Figures, please replace the description for Figures 4 and 5 with the following amended paragraphs:

Figure 4 Biomass ~~(a)~~ (top) and nitrogen content ~~(b)~~ (bottom) at harvest of Arabidopsis thaliana grown for 14 days after germination.

Figure 5 Biomass ~~(a)~~ (top) and nitrogen content ~~(b)~~ (bottom) at harvest of Arabidopsis thaliana grown for 14 days after germination.

In the specification at page 28, line 27, please replace the paragraph which starts with "Figure 4" with the following amended paragraph:

Figure 4 shows biomass ~~(a)~~ (top) and nitrogen content ~~(b)~~ (bottom) at harvest of *Arabidopsis thaliana* grown for 14 days after germination. Plants were grown on half-strength MS medium without nitrogen sources other than D-serine. Open bars are transgenic plants expressing *dsdA*, hatched bars are wild type plants. Bars represent mean ± standard error, n = 4.

In the specification at page 29, line 1, please replace the paragraph which starts with "Figure 5" with the following amended paragraph:

Figure 5 shows biomass ~~(a)~~ (top) and nitrogen content ~~(b)~~ (bottom) at harvest of *Arabidopsis thaliana* grown for 14 days after germination. Plants were grown on half-strength MS medium with 3 mM nitrate as a basic N supply and amended with different D-serine concentrations. Open bars are transgenic plants expressing *dsdA*, hatched bars are wild type plants. Bars represent mean ± standard error, n = 4.

In the specification at page 29, line 14, please replace the paragraph which starts with "The *E. coli* gene" with the following amended paragraph:

The *E. coli* gene dsdA (D-serine dehydratase (D-serine deaminase) [EC:4.3.1.18 (SEQ ID NO: 8)] NCBI accession number J01603 (SEQ ID NO: 7)) was amplified by PCR using primers 5′-AATGGATCCTCATCTAAGCGCAAAGAGACGTACTATGG (SEQ ID NO: 1) and 5′-ATTGGATCCATGCTGCGTTGAAACGTTATTAACGG (SEQ ID NO: 2). The PCR product was sub-cloned into pT-easy (Promega) and sequenced with DYEnamics cycle sequencing kit, (Amersham Pharmacia biotech). Alignment analysis with the database sequence confirmed successful full length cloning of dsdA. The clone was subsequently ligated into the BamH1 site of the CaMV 35S expression cassette of the binary vector pPCV702Km, which is a disarmed Ti-plasmid of *Agrobacterium tumefaciens*, to generate the vector pPCV702:dsdA. Restriction analysis of this vector with endonuclease confirmed orientation of insertion.

In the specification at page 30, line 7, please replace the paragraph which starts with "Transgenic plants" with the following amended paragraph:

Transgenic plants expressing D-amino acid oxidase were constructed essentially in the same way as the *dsdA* plants described above, with the following modifications: The *dao1* gene (EC: 1.4.3.3 (SEQ ID NO: 6): NCBIU60066 (SEQ ID NO: 5)) from the yeast *Rhodotorula gracilis* (*Rhodosporidium toruloides*) was cloned with PCR with a cDNA library prepared from yeast grown on D-alanine containing medium to induce expression of the target gene, as a template. PCR primers were 5′-ATTAGATCTTACTACTCGAAGGACGCCATG (SEQ ID NO: 3) and 5′-ATTAGATCTACAGCCACAATTCCCGCCCTA (SEQ ID NO: 4).

In the specification at page 32, line 20, please replace the paragraph which starts with "D-serine" with the following amended paragraph:

D-serine and several other D-amino acids were observed to inhibit growth of wild-type *A. thaliana* and other species. For *A. thaliana*, clear growth inhibition is observed at a concentration of 0.3 mM D-serine in the growth medium and total growth inhibition occurs at 3 mM ~~(Fig 2)~~ (Fig. 3).

In the specification at page 33, line 21, please replace the paragraph which starts with "Minimal growth" with the following amended paragraph:

Minimal growth of both transgenic and wild type plants was observed on the control medium lacking nitrogen. Both growth and N content of the transgenic plants was observed to increase significantly (analysis of variance, $p<0.0001$) with increasing D-serine concentration ~~(fig 4a, b)~~ (Fig. 4 top and bottom). No increase in the growth of the wild-type plants was observed (figure 3). In the presence of a basic level of nitrate, growth and nitrogen content of transgenic plants also increased significantly ($p<0.0001$) with increasing D-serine concentration, while the opposite response is found for wild-type plants (fig 5). This indicates that D-serine has a toxic effect on the wild type plant but not on the transgenic plant. Within the observed range of D-Ser, the transgenic plants showed no toxicity symptoms.

In the specification at page 34, line 4, please replace the paragraph which starts with "The relative growth" with the following amended paragraph:

The relative growth response to increased D-serine concentration is similar whether or not the transgenic plants receive a basic supply of nitrate ~~(Fig 4a and 5a)~~ (Fig. 4(top) and 5(top)). The corresponding response in plant N content is, however, higher in plants supplied with both D-serine and nitrate ~~(Fig 4b and 5b)~~ (Fig. 4(bottom) and 5(bottom)). At equal concentration, growth of plants on nitrate is significantly higher than on D-serine ~~(Fig 4a and 5a)~~ (Fig. 4(top) and 5(top)). The N concentration of plants grown on 3 mM D-serine is, however; significantly lower than plants grown on 3 mM nitrate (ANOVA, $p<0.0001$). The cause of the lower growth on D-serine is unknown but the relatively low N concentration of D-serine grown plants may indicate a lower uptake rate of this N form compared to that of nitrate.

In the specification at page 37, lines 9-15 (as added by the First Preliminary Amendment), please cancel the paragraph that starts with "Other embodiments and advantages."